

AMENDMENTS TO THE SPECIFICATION

Please amend the specification as follows:

Please replace the paragraph extending from p. 30, line 20 through p. 31, line 16 with the following replacement paragraph:

One example of a device structure according to the instant invention is shown in Fig. 4. Fig. 4 shows a cross-sectional view of a three terminal device structure. The three terminals are labeled T(1), T(2), and T(3). A plurality of these devices was formed on a 6" silicon wafer. The devices and layers on the wafer were formed using conventional sputtering, chemical vapor deposition, etching, and lithography techniques. The structure includes a silicon wafer substrate **310**, a thermal oxide layer **320**, a bottom terminal **330** that includes a conductive layer **340** formed from TiW or a combination of Ti and TiN and a carbon barrier layer **350**, an SiO_x/SiN_x insulating region **360**, an intermediate terminal **370** formed from TiW, a pore filled with a chalcogenide material **380**, a top terminal **390** that includes a carbon barrier layer **400** and a conductive layer **410** that includes Ti and TiN, and an Al layer **420**. In this example, the chalcogenide material **380** is Ge₂Te₂Sb₅ and is labeled GST in ~~Fig. 3~~ Fig. 4. The barrier layers inhibit diffusion and electromigration of material into the chalcogenide region and improve the cycle life of the device. Typical layer thicknesses are as follows: conductive layer **340** (100 nm), barrier layer **350** (30 nm), intermediate terminal **370** (10 – 40 nm), barrier layer **400** (100 nm), and conductive layer **410** (100 nm). The pore region occupied by the chalcogenide material in device of this example is cylindrical with a height of approximately 0.1 micron and a diameter of about 1 micron. The terminals **330**, **370** and **390**

are in electrical communication with the chalcogenide. The intermediate terminal **370** circumscribes the chalcogenide material **380**. The terminals are separated by an insulating material so that electrical communication between terminals occurs through the chalcogenide material.

AMENDMENTS TO THE DRAWINGS

Applicant has submitted an amended version of Fig. 1 and encloses a replacement sheet therefor. The amended version differs from the original version only through the inclusion of a reference line connecting label “60” to the indicated reset point that it references.